

## REMARKS

Claims 1-32 are currently pending in this Application of which claims 1 and 12 are independent. Claims 1-32 stand rejected and Applicant respectfully requests reconsideration and allowance of the pending claims in view of the following discussion.

### **A. Rejections Under 35 U.S.C. § 112.**

Claims 28 and 29 have been amended to depend from claims 27 and 12, respectively. Each is now believed to have proper antecedent basis and the rejection under 35 U.S.C. § 112 is believed to be traversed.

### **B. Rejections Under 35 U.S.C. §§ 102 and 103.**

#### **1. Russian '401.**

Claims 1 and 2 are rejected under 35 U.S.C. §102(b) as being anticipated by Russian '401. Russian '401 teaches a “housing,” which is a perforated cylindrical body rigidly attached to a shaft and closed at one end. P. 1, ¶ 2. An impeller is located within the cylinder. Id. The device of Russian '401 is not a molten metal pump, but a device for filtering dross from molten metal. P. 2, ¶ 1. The impeller blades 4 help to fill the body of the cylinder with molten metal and protect the molten metal from “sliding.” Id. Under the effect of centrifugal forces, the liquid molten metal is filtered out through the side perforations of the cylindrical body. Id. Russian '401 lacks at least the following limitations of the pending claims: (a) a device for use in a molten metal pump (claims 1-11), (b) a discharge through which a stream of molten metal is defined (claims 1-32), (c) the displacement structure including one or more rotor blades for displacing molten metal through the discharge (claims 1-32), (d) a pump for pumping molten metal (claims 12-32), (e) a pump base including a pump chamber and a discharge (claims 12-32), and (f) a device at least partially positioned in the pump chamber (claims 12-32).

#### **2. Dunkleman '060.**

Claims 1 and 4-11 are rejected under 35 U.S.C. §102(b) as being anticipated by Dunkleman '060. Dunkleman '060 teaches a rotary device for dispersing gas in molten metal. Abstract. Dunkleman '060 comprises a hollow shaft and hollow rotor attached to the shaft. Id. When the device is rotated molten metal is drawn into the manifold and breaks up the gas stream emerging from the shaft into very small bubbles. Id.; Fig. 2. The gas/metal mixture flows into compartments C and out through the peripheral outlets into the molten metal bath. Id.

Dunkleman '060 does not teach a pump as claimed by Applicant, which generates a directed stream of molten metal. Dunkleman is actually equivalent to a rotary degasser - it has no housing or discharge to generate a directed stream of molten metal. Dunkleman lacks at least the following limitations of the pending claims: (a) a device for use in a molten metal pump (claims 1-11), (b) a discharge through which a stream of molten metal is defined (claims 1-32), (c) the displacement structure including one or more rotor blades for displacing molten metal through the discharge (claims 1-32), (d) a pump for pumping molten metal (claims 12-32), (e) a pump base including a pump chamber and a discharge (claims 12-32), and (f) a device at least partially positioned in the pump chamber (claims 12-32).

**3. Scheffler '133.**

Claims 1-4, 7, 12-14, 16-18, 22 and 24-26 are rejected under 35 U.S.C. §102(b) as being anticipated by Scheffler '133. Scheffler '133 teaches a two-stage rotor having an inlet port 23 for admitting liquid into the first stage rotor 16. Col. 3, ll. 9-12. While rotor 16 rotates, Scheffler '133 does not teach that inlet port 23 rotates. See col. 4, ll. 4-10. Thus, Scheffler '133 expressly teaches away from the structure claimed by Applicant.

**4. Rawson '383.**

Rawson '383 teaches a pump with bearings and with the impeller supported entirely above the pump outlet so that the bearings are above the liquid. Col. 1, ll. 60-66. The impeller of Rawson '383 is mounted in a fixed structure of the pump (col. 2, ll. 31-32) thus expressly teaching away from the rotating inlet of the present invention.

**C. The Pending Claims Are Not Obvious.**

Since each independent claim, 1 or 12, is patentable, the dependent claims are also patentable at least because they depend from a patentable independent claim. However, there is no motivation to combine the rotary device of Dunkleman '060 with the pump of Rawson '383 since, among other things, the inclusion of a base with discharge is superfluous to the teachings of Dunkleman '060. Furthermore, even if the proposed combination were made (and it would have to be done in a piece meal fashion) it would not include each and every limitation of the pending claims.

### CONCLUSION

In view of the amendments and arguments herein, this Application is believed to be in condition for allowance and favorable action is requested. Applicant reserves the right to prosecute additional claims, including claims of broader scope, in any related application.

Applicant hereby petitions for any extension of time which may be required to maintain the pendency of this case, and any required fee, except for the issue fee, for such extension is to be charged to **Deposit Account No. 19-3878**.

The Examiner is invited to telephone the undersigned at the telephone number listed below if it would in any way advance prosecution of this case.

Respectfully submitted,

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